

7. (Once Amended) A thumb splint as defined in claim 1, wherein said  
splint is incorporated into a glove or mitt.

### REMARKS

Reconsideration of this application, and the rejection of claims 1-15 are respectfully requested. Applicant has attempted to address every objection and ground for rejection in the Office Action dated March 27, 2002 and believes the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

The features of claims 2 and 3 have been incorporated into claim 1, along with an indication of the connection point of the positioning element from claim 4. Claims 2-4 are being canceled as redundant. Claims 5-7 are being amended to change the dependencies from the canceled claims.

Claims 3-6 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In amending claim 1 to receive the features of claim 3, the reference to "said one end" has been changed to "said first end." The claim now distinctly claims the subject which the Applicant considers to be his invention. In view of this amendment, Applicant respectfully requests that the rejection under 35 U.S.C. § 112 be withdrawn.

Claims 1-2, 4, 8-12 and 14 stand rejected under 35 USC §102 as being anticipated by Furr et al in U.S. Patent No. 5,188,356. Applicant suggests that claim 1, as amended, claims 8-12, and 14 are different than the invention of Furr, and thus elects to traverse.

Furr teaches a strap to aid a basketball player's shooting accuracy. The strap consists of a loop 31 at one end along with a Velcro or affixing portion 33 at the other end. As shown in Figure 4, when the strap 10 is laid out, tape portion 20 extends directly away from loop portion 31 and is, therefore, in a line with loop portion 31.

In operation, Furr teaches that the strap may be used in two ways. As illustrated in Figure 7, loop portion 31 can be affixed along the thumb. Tape portion 20 then extends along the back of the hand, around the wrist, and then is affixed back along tape portion 20. Alternatively, as shown in Figures 5 and 6, loop portion 31 can be affixed about the index finger. The tape portion then extends around the thumb, over the back of the hand, around the wrist, and then affixes to itself.

As indicated above, the Furr device is intended to be used as a basketball shooting aid. In this regard, it is intended that the user keep a hand open and extended, especially when the strap is configured as in Figures 5 and 6. If the user closes his or her hand, or makes a fist, the positioning of the strap 10 will likely shift due to the fact that there is no thumb receiving section and this strap 10 may slide down below the base of the thumb.

Conversely, claims 1, 8-12 and 14 all include a thumb receiving section and an index finger receiving section. By having both a thumb receiving section and an index

receiving section, the disadvantage of Furr, that of the thumb portion sliding down below the base of the thumb, is prevented. The reference neither teaches nor suggests both a thumb receiving and an index finger receiving section. The applicant disagrees with the Examiner's characterization of a strap wrapped around the periphery of the thumb as a "receiving section."

The rejected claims include a positioning component that is securable between said index finger receiving section and said thumb receiving section. As shown and described, the Furr tape has insufficient length to come across the back of the hand, wrap around the wrist and back up across the palm to secure to the first end or the stabilizing component. In Furr, the tape portion 20 extends directly away from loop portion 31. While this is effected in basketball shooting, the present invention contemplates the use of the thumb splint under a glove or mitten.

The advantage of including a positioning component between the thumb receiving section and the index finger receiving section is that the non-extendable, flexible connector between these two components is pulled downwardly, thus allowing a glove or mitt to fit properly. Furr neither teaches nor suggests a positioning component which is affixable in this way.

Even if the tape could be so arranged, it would go against the teachings of Furr that states that the palm of the hand be completely exposed for dribbling and other activities (col. 5, lines 53-58). There is no reason that one skilled in the art would go against the teaching of this reference to modify the Furr device in a way that is neither shown nor suggested.

Claims 1, 8-12 and 14 further recite a non-extendable, flexible connector between the thumb receiving section and the index finger receiving section. This connector is non-extendable to ensure the correct distance between the index finger and thumb in order to prevent

motion beyond the point where the ulnar collateral ligament would be injured. Furr does not teach this, and includes only a strap in which the distance between the thumb and index finger is randomly determined based on the way the strap is looped around the outer part of the thumb.

Thus, there are at least two structural differences between the present invention and the Furr reference, the lack of a non-extendable connector between the thumb receiving section and the index finger receiving section and the strap that is releasably securable to either the first end or to the stabilizing component. Applicant respectfully traverses this invention.

Claims 5-6, 10 and 13 stand rejected under 35 USC §103(a) as being obvious in view of Furr et al. The Examiner suggests that it would have been obvious to extend the length of the tape along the length of the palm in order to further restrain the thumb. Arguments submitted above with respect to the tape being securable to the first end or the stabilizing component are reasserted here. Furr specifically teaches against the use of a strap across the palm, thus it would not have been obvious at all.

Arguments presented above regarding the structural differences in the two devices are reasserted here.

Although both devices restrain the movement of the thumb, they do so in different ways. Applicant's stabilizing component has a separate finger receiving section and thumb receiving section, with a non-extendable connector between them. The thumb and the index finger are held a specific distance apart. Each receiving section is secured to a fixed size and shape. The entire stabilizing component is drawn toward downward the wrist by the positioning component with little or no lateral forces.

In contrast, Furr's device comprises a loop and a tape. If the loop is placed around the finger, it may act as a finger receiving section. The loop is then pulled to the side to wrap around the distal side of the thumb, across the back of the hand, then wraps around the wrist. As the tape wraps the thumb, it pulls the thumb laterally toward the finger, drawing the two digits together. Although there is a small downward force component, it is relatively small compared to the lateral forces. Thus, the two devices operate in a different way because Furr's device pulls the thumb and finger together while Applicant's device does not.

The different structures also produce a different result. Applicant's device limits movement of the thumb in the same manner regardless of how the splint is applied. The thumb and finger receiving sections are both fixed, with a non-extendable connector between them. The maximum extension of the thumb and finger are always the same relative to each other. Positioning of the thumb and finger relative to each other is entirely dependant on how the user of Furr's device applies it. If the strap is pulled tightly around the thumb, the thumb and index finger could be essentially locked to each other. The thumb could be essentially unrestrained if the user applies the tape loosely. Applicant suggests that since the devices do not have the same function, operate in the same way and produce the same result, it would not have been obvious for a reader of Furr to modify Furr's device to construct Applicant's device and that the rejection under 35 U.S.C. § 103(a) is traversed.

Regarding claim 13, the Examiner has admitted that Furr et al. do not teach that the thumb cannot extend beyond 100 degrees from the index finger. No evidence is presented to show that the criticality of this degree of extension was known in the art for this purpose.

Claim 15 is not mentioned in either paragraph 2 or 4, stating the basis upon which the claims were rejected, however, page 6 discusses claim 15 as though it was rejected. On the assumption that claim 15 is rejected under 35 U.S.C. § 103(a), the following arguments are offered.

The arguments set forth above regarding the lack of a connector and the inability of the strap to attach to the first end are reasserted here. The strap would be unable to attach to the index finger receiving section for the same reasons that it cannot attach to the stabilizing component or the first end.

Arguments set forth with respect to the respective function/way/result of each device set forth above are also reasserted here.

The Examiner admits that Furr et al do not teach the use of polyester or nylon to form the splint, however, the Examiner has not shown the suitability of those materials for this intended use.

Arguments presented above with respect to the degree of extension of the thumb from the index finger are reasserted here.

Applicant submits that by application of the arguments presented above, any rejection to claim 15 has been respectfully traversed.

Claim 7 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Furr et al. in view of Cronin in U.S. Patent No. 4,706,658. Cronin discloses a glove with a splint incorporated therein. The Examiner suggests that it would have been obvious to create Applicant's device by incorporating the Furr device into the Cronin glove. Applicant

respectfully traverses this rejection. If Furr's device were incorporated into a glove, it would not result in Applicant's device.

Claim 7 depends from claim 1, including all features included therein. Arguments set forth above with respect to the direction of forces on the thumb and finger are reasserted here. A glove made to incorporate the Furr device would pull the index finger and the thumb laterally toward each other rather than drawing them toward the wrist of the wearer.

Incorporation of the Furr device into a glove would not cure the deficiencies of Furr with respect to the lack of a connector and the inability of the strap to attach to the first end are reasserted here. Cronin has no teaching of a strap across the palm of the hand that would balance the force from the back of the hand so that forces on both sides of the thumb and finger are equal from both sides.

Further, the splint of Furr would not be combined with a glove because it is against the teachings of Furr to cover the palm of the hand. Arguments set forth above regarding the obviousness of extending the tape of Furr are reasserted here.

Applicant submits that by the arguments asserted above, the rejection of claim 7 under 35 U.S.C. 103(a) has been successfully traversed.

Applicant respectfully suggests that in the outstanding Action, the rejections evidence "picking and choosing" components of Furr modifying them when there is no suggestion in those references to do so. Here, the Examiner has attempted to utilize parts of the reference describing attachment of the tape to the first end or the stabilizing component to read on Applicant's invention where no disclosure exists in the reference. The entire reference was

not considered for what it fairly discloses to an artisan, that the palm of the hand should be kept completely exposed so as to not interfere with dribbling or other functions of the hand. It is impermissible within the framework of a 35 U.S.C. § 103 rejection to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.

One of the problems addressed by Applicant was the application of equal forces to both the front and the back of the hand to keep the thumb and finger receiving sections in position. Nowhere was this question addressed by the prior art. The reference relied upon by the Examiner suggested that it would be unadvisable to have a strap across the palm. There would, therefore, be no reasonable expectation of solving the problem faced by Applicant. When obviousness is considered, the standard is not that the combination was obvious to try, but it must be obvious that the resulting composition will successfully solve the problem. None of the rejections based on § 103(a) are appropriate where the problem faced and solved by the Applicant is not considered in the prior art. The problem considered by the inventor must be considered in making a determination as to the obviousness of the invention over references.

None of these references, whether cited or of record, taken either alone or in combination, disclose or suggest the invention as claimed.


Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."



Applicant submits that in view of the above-identified amendments and remarks, the claims in their present form are patentably distinct over the art of record. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, he is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

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**In the Claims:**

TECHNOLOGY CENTER R3700

Claims 2-4 have been cancelled, and Claims 1 and 5-7 have been amended as

follows:

1. (Once Amended) A thumb splint, comprising:

a thumb stabilizing component for securing the thumb of the user to the adjacent index finger permitting the thumb to move toward the index finger but limiting movement of the thumb away from the index finger to a predetermined angle said thumb stabilizing component comprising; ~~and a positioning component for securing the thumb stabilizing component in proper position on the hand of the user.~~

a thumb receiving section for receiving a thumb of a user;

an index finger receiving section for receiving an index finger of a user;

a non-extendable, flexible connector extending between and secured to the thumb section and the index finger section for limiting abduction of the thumb to a predetermined value; and

a positioning component for securing the thumb stabilizing component in proper position on the hand of the user, said positioning component comprising an elongated strap having a first end secured to said thumb stabilizing component at a point

between said thumb receiving section and said index finger receiving section and a second end releasably securable to said first end of said strap or to said stabilizing component for keeping the stabilizing component operatively positioned on the hand of the user.

5. (Once Amended) A thumb splint as defined in claim 4,1, said strap having a length sufficient to extend from said stabilizing component, along the palm of the hand of the user, to and around the wrist and along the backside of the hand.

6. (Once Amended) A thumb splint as defined in claim 5,2, said thumb stabilizing component and said positioning component being integral and formed of a single length of polyester or nylon or other suitable fabric webbing.

7. (Once Amended) A thumb splint as defined in claim 2,1, wherein said splint is incorporated into a glove or mitt.